

Case Report

Complete resection of a giant ovarian tumour[☆]Y.C. Madhu^{a,*}, K. Harish^a, Pipara Gotam^b^a Department of Surgical Oncology, M.S. Ramaiah Curie Centre of Oncology, M.S. Ramaiah Medical College, Bangalore, Karnataka, India^b M.S. Ramaiah Medical College, Bangalore, Karnataka, India

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Introduction

Giant ovarian tumours are rare. Benign mucinous cyst adenomas account for about 15% of all ovarian neoplasms and are among the largest known tumours. About 80% of mucinous tumours are benign, 10% are borderline and 10% are malignant. They are usually common between third and fifth decade of life. We present a case of giant ovarian mucinous cyst adenoma in an Indian woman weighing 56.95 kg or 125.29 lb.

Case report

A 55 year old post-menopausal lady was referred to our hospital with history of abdominal distension since the last 13 years. The distension was insidious in onset and progressive in nature. Initially, the patient and her attenders thought that she was pregnant. However when the distension progressed, she consulted a surgeon and was advised evaluation. Due to financial constraints and familial reasons the patient denied evaluation and treatment. For the last 6 years the distension increased dramatically which ultimately started restricting the patient's daily activities. The patient became bedridden and was finding it difficult to carry out her routine activities.

She presented to us in such a state where she required assistance for daily hygiene activities and was bedridden for the last 6 years. The

patient used to lie only in a lateral position and used to defecate in a sitting position on a chair. She complained of constipation on and off but however there was no history of breathlessness or swelling of the feet. Physical examination revealed a conscious alert and oriented lady, pleasant in demeanour. The abdomen was massively distended with dilated veins (Fig. 1). Abdominal girth at pubic symphysis was 190 cm. Her vulva, vagina and cervix were grossly normal. Fullness was felt in the pouch of Douglas. Vaginal and rectal examinations revealed fullness. She weighed 90 kg in total.

Ultrasound of abdomen and pelvis was not useful as ultrasonic waves could not penetrate the thickened parietal wall and thick walled tumour. A CT abdomen and pelvis was done with great difficulty as the patient did not fit into the CT scan machine at the first instance. CT scan revealed a large well defined mass in the abdominal cavity measuring 50 cm × 39 cm (AP) × 47 cm (TD) with a few septations. Lesion was causing displacement of kidney, pancreas, aorta, IVC, celiac axis, mesenteric vessels and bowel loops posteriorly. No obvious calcifications were seen. Bilateral kidneys were normal, uterus and ovaries were not clearly delineated. No ascites was seen. A 2D echo done showed normal LV systolic function with an ejection fraction of 58%. A chest X-ray done revealed normal visualised lung parenchyma. A pulmonary function test performed was normal. In view of giant ovarian tumour multidisciplinary consultations were sought comprising plastic surgery, anaesthesia, and intensivist cardiology, pulmonology and psychiatry. The patient and her relatives were counselled. Anaemia and hypoalbuminaemia were rectified. After obtaining a multidisciplinary consultation, it was decided to operate on the patient in lateral position, with infra umbilical transverse incision and to remove the tumour in toto rather than a decompression of tumour owing to the consequences.

The patient was operated with very high risk consent. She was informed about all the complications like hypotension after removal of mass, need for inotropes and ventilatory support, respiratory compromise and other complications including cardiac arrest on table. She was shifted to the operation theatre on a hospital bed. Anti-embolism stockings were applied. Patient was successfully intubated in left lateral decubitus position and was induced by general anaesthesia. A transverse infraumbilical elliptical incision was made and deepened up to cystic wall, separated all around and adhesions were released. Pedicle arising from left ovary was identified, clamped and divided (Fig. 2). The ovarian mass was delivered out in toto without any haemodynamic and cardiac derangements. Patient was turned to supine position and total hysterectomy was done with closure of vaginal vault. Abdominal reconstruction was done by our plastic surgery team. Elliptical segment of skin excised weighed 4.8 kg and was approx 1 ft (vertically) and 2 ft

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Fig. 1. Massive distension of abdomen with dilated veins.

(horizontally). The patient was extubated and shifted to the intensive care unit. The blood loss was approximately 800 ml, due to the parietal wall resection than the tumor resection *per se*. Patient was started orally on post op day two and shifted to the ward on post-operative day five. Immediate post-operative period was uneventful. Histopathology was reported as mucinous cyst adenoma of the left ovary with extensive necrotic changes. The tumour weighed 56.95 kg or 125.29 lb (Fig. 3).

On post operative day eight patient developed abdominal wall swelling, hypotension, feeble pulse and pallor. A bed side ultrasound done showed large echogenic lesion of 8×6 cm with a cystic component in the infraumbilical region showing multiple septations — suggestive of a clot/hematoma. Patient was re-explored and was found to have a parietal wall bleed. Bleeding point was secured by ligation and haemostasis was achieved. The estimated blood loss was approximately 1000 ml. Patient was extubated, shifted to intensive care unit and lost blood was replaced by packed cell transfusion. Patient responded well to the treatment and was shifted to the ward on post-operative day twelve. She remained in the hospital for two weeks to continue her physical and psychiatric rehabilitation. She was discharged after suture removal and is doing well till date.

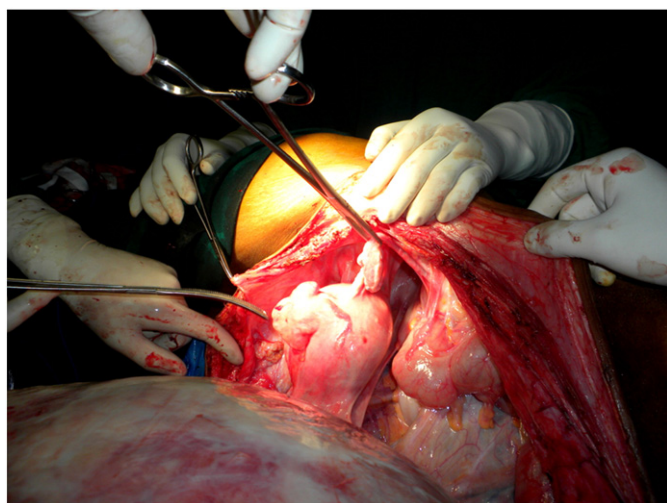


Fig. 2. Tumor pedicle with normal other ovary.



Fig. 3. Giant tumor with weight.

Discussion

Mucinous cyst adenoma is a benign ovarian tumour that occurs in middle aged women. 10% of these are bilateral. In our case the tumour was unilateral affecting the left ovary. Histologically they are lined by tall columnar non ciliated epithelial cells with apical mucin and basal nuclei.

In cases of ovarian cysts reported previously majority of the histopathological diagnoses have been mucinous cyst adenoma (O'hanlan, 1973). The treatment of choice is surgery. It can be accomplished by en bloc removal of tumour with or without controlled drainage of tumour fluid. Removal of tumour en bloc is thought to decrease the risk of spilling potentially malignant cells (Webb et al., 1973). However controlled drainage prevents supine hypotension syndrome (Jones et al., 1992). Intraoperative drainage of cystic fluid prevents the phenomenon of splanchnic shock which occurs when the compressed splanchnic vascular bed adjacent to inferior vena cava is released with removal of mass (Einenkel et al., 2006). We performed in toto removal of the mass to prevent spillage and to avoid haemorrhage into the cystic compartments of the mass itself or the abdominal cavity. Leakage of cyst fluid into the peritoneal cavity can cause sudden pulmonary oedema as noted by Drife and Trotter (1981). Preoperative and intraoperative drainage should be done for patients in extremis with cardiovascular or respiratory compromise due to compression (Drife and Trotter, 1981). Pre or intra operative drainage should be done only after sonographic evidence of mural papillation/solid elements being absent. There is however also a rare possibility of pseudomyxoma peritonei in case of inadvertent peritoneal spillage of the mucinous contents. Supine position should be avoided as resultant vena cava compression can reduce the cardiac output with sudden loss of pulse and cardiac arrest. Lateral decubitus is the most preferred position to operate. Preoperative multidisciplinary team approach, patient counselling, pre-operative bowel preparation, a central line, intra arterial measurement of blood pressures, critical monitoring during surgery with minimal blood loss

were the key steps to successful removal of mass in toto in our case. Our patient had no pulmonary complications post operatively. However pulmonary complications are common due to sudden relaxation of chronically distended flaccid abdominal and diaphragmatic musculature (Hunter, 1980). Hence delayed extubation is sometimes recommended.

A low transverse incision as described by Matory is associated with less risk of ventral hernia formation and permits restoration of normal rectus abdominis muscle function (Matory et al., 1989). Rectus tone returns 2 to 4 months after surgery. Vertical elliptical incision does not allow for adequate resection of the massive excess of skin in the vertical plane.

As per literature Spohn et al. in 1906 reported a 43 year old woman with a simple abdominal cyst which was drained pre operatively over 7 days of 30 gal of gelatinous fluid. The total weight was 328 lb or 148.6 kg (Spohn, 1905). In 1954 Eames et al. removed an intact tumour weighing 184 lb (Eames, 1954). In 1993 intact removal of a 303.2 lb ovarian tumour was reported from California by Katherine et al. (O'hanlan, 1973). Symmonds et al. reported another mass that weighed 175 lb or 79.4 kg in 1963. This case reports the largest of its kind ever reported in India and most probably the third largest tumour across the globe weighing 56.95 kg or 125.29 lb removed in toto by Madhu et al. at M.S. Ramaiah Hospital, Bangalore, India.

Hence as described by Katherine et al. (O'hanlan, 1973), a multi-disciplinary team approach is necessary to maximise care for such complex patients. Resection of mass intact through a transverse elliptical

incision with intense intra operative and postoperative monitoring will provide the safest and optimal setting.

Consent

Written informed consent was obtained from the patient for publication of this case report.

Conflict of interest

None, financial support: none.

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